

perspective) for the standard fertility treatment strategy is about 50M USD compared to the fast track fertility treatment strategy at about 41M USD for a net budget impact of 9M USD. The average cost per patient per year (patient perspective) for the standard fertility treatment strategy is approximately 4,800 USD compared to the fast track fertility treatment strategy at an estimated 4,200 USD for a net budget impact of approximately 600 USD. Results vary upon user inputs. **CONCLUSIONS:** An Excel-based model was developed to assist managed care organizations and employers with the development of an optimal fertility benefit design. The model serves as an educational tool to evaluate various fertility benefit designs in terms of patient and financial outcomes.

PIH90

POTENTIALLY INAPPROPRIATE MEDICINES AND POTENTIAL PRESCRIBING OMISSIONS IN OLDER PEOPLE AND THEIR ASSOCIATION WITH HEALTH CARE UTILIZATION: A RETROSPECTIVE COHORT STUDY

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OBJECTIVES: Older people are vulnerable to medicine-related adverse effects. In response to these concerns, prescribing indicators have been developed addressing: Potentially Inappropriate Medicines (PIMs), medicines with unfavourable risk-benefit ratios and Potential Prescribing Omissions (PPOs), omission of indicated medicines with a clear benefit. Little is known about the impact of PIMs and PPOs on health care utilization. This study aims to determine the association between PIMs and PPOs and health care utilization. **METHODS:** This is a retrospective cohort study of 2,051 community-dwelling participants in The Irish Longitudinal Study on Ageing (TILDA) aged ≥ 65 years with linked medication dispensing history from a national pharmacy claims database. PIM and PPO exposure in the 12 months prior to participants' TILDA interviews was determined using validated prescribing indicators: Screening Tool for Older Persons' Prescriptions (STOPP), the Screening Tool to Alert doctors to Right Treatment (START), Beers' criteria and Assessing Care of Vulnerable Elders (ACOVE) indicators. Outcome measures used were self-reported number of hospital visits (emergency department or inpatient admissions) and general practitioner (GP) visits in the previous year. Poisson regression models were used to determine the associations between PIMs and PPOs and these outcomes, adjusting for age, sex, education, number of medications, chronic conditions, and health insurance status. **RESULTS:** Overall PIM prevalence was 19.8–52.7% and PPO prevalence was 43.6–44.8% depending on the screening tool applied. Independent of screening tool used, PIMs and PPOs were significantly associated with hospital visits. For example, the adjusted Incident Rate Ratio (IRR) for each additional STOPP PIM was 1.24 (95%CI=1.15–1.35). With the exception of START PPOs, PIM and PPO exposure were also significantly associated with GP visits (adjusted IRR=1.10 (95%CI=1.06–1.15) for each additional Beers' PIM for example). **CONCLUSIONS:** PIM/PPO exposure is independently associated with increased health care utilization, supporting application of PIM/PPO indicators as robust measures of health care quality and patient safety in relation to prescribed medications.

PIH91

IMPACT OF ASSISTED REPRODUCTIVE THERAPY (ART) ON INFANT HEALTH AND HEALTH CARE COST OUTCOMES

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OBJECTIVES: Assisted reproductive therapy (ART) has increased dramatically in the US over the past several decades, nearly doubling from 1999 to 2008. Prior research has evaluated multiple outcomes from ART including newborn survival and birth weight as well as cost analyses measuring cost per live birth; despite robust information on ART as a whole there is no Colorado-specific data on neonatal intensive care unit (NICU) outcomes following ART and its economic implications. **METHODS:** Using data from the Colorado Department of Public Health and Environment (CDPHE) - Colorado Birth Certificate Database from 2007–2012, we use multivariable logistic regression to determine if ART births are associated with a higher risk of NICU admission compared to non-ART (no fertility treatment) births. We compare the risk of NICU admission among the full birth cohort and a singleton-only cohort controlling for plural births and birth order. We use Colorado state Health Care Policy and Financing (HCPF) fiscal year 2007–08, Colorado Centre for Reproductive Medicine costs and Colorado State Medicaid 2012 fee schedule data to estimate average NICU admission rates, total ART procedural costs and average costs of delivery, respectively. **RESULTS:** 190,795 live births in 2007–2012 were included into the birth cohort for analysis (12,666 ART births; 178,129 non-ART births). ART births resulted in a 52% increased risk of being admitted to the NICU compared to non-ART births (OR 1.52 [95% CI 1.38, 1.69]); singleton-only ART births had a 39% greater risk of being admitted to the NICU compared with singleton non-ART births (OR 1.39 [95% CI 1.18, 1.65]). Average NICU admission costs were estimated at \$6,165.78 per ART birth and \$331.85 per non-ART birth. **CONCLUSIONS:** ART births in Colorado have a higher risk of NICU admission compared to non-ART births. The economic impact of NICU admissions is 18.6 times greater among ART births compared to non-ART births.

PIH92

AGING IMPACT OVER THE NATIONAL HEALTH COST IN EXTREMADURA PUBLIC HEALTH EXPENDITURE OF EXTREMADURA IN THE PERIOD 2011–21

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OBJECTIVES: To estimate the effect of demographic component in the evolution of public health expenditure of Extremadura in the period 2011–21. **METHODS:** we estimated health expenditure profiles by age and gender in 2011. Then, we used population projections to calculate future health spending. To obtain those profiles we used data obtained from the information systems of Extremadura. For the pri-

mary profile we used the data of frequency by age and gender for this specialised profile obtaining this from the minimum joint data base of the hospital discharge. The profile of the pharmaceutical expenditure by age and gender was obtained from the pharmacy invoice, once the public contribution was deducted. The estimated population in 10 years was obtained from the National Statistic Institute. (INE). **RESULTS:** aging results in a cumulative annual rate for the period 2011–2021 for public health expenditure growth of 5.34%. The aging effect implies a cumulative annual rate in the period 2011–2021 of 6.43% and a decrease of -0.69% due to the range effect (decrease in population). Of all the segments, the largest increase is in the pharmaceutical costs with an accumulated increase of 8.81%, of which 5.65% is in primary attention and 4.78% in specialised attention. **CONCLUSIONS:** According to our results, population growth or aging are determining aspects in public health expenditure increase. Using data directly from each region will explain the differences. In the case of Extremadura, the age factor is very important when increasing the pressure of the public health cost, having a special influence in the field of pharmaceutical expenditure and primary attention.

PIH93

KAZAKHSTAN VERSUS UZBEKISTAN: A REVIEW OF THE DRUG PROVISION SYSTEMS

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OBJECTIVES: As is the case with many of the Commonwealth of Independent Countries (CIS), since the collapse of the Soviet Union, both Kazakhstan and Uzbekistan have been re-building health care provision, and improving access to medications for their population. This study compares the two separate paths the countries have taken, and aims to establish the outcomes achieved by the two systems as well as the direction of future reforms. **METHODS:** Secondary research focused on analysing the systems in place in the two countries, focusing on drug provision. The study assessed the mechanisms in place, drawing comparisons between the two systems, with a particular focus on the outcomes achieved. **RESULTS:** Uzbekistan provides medications free of cost for certain categories of patients, while in Kazakhstan, the government has approved a list of drugs that are provided for free as part of the guaranteed volume of free medical care. In both the cases these fall under an outpatient setting. Although the procurement of drugs is carried out mostly via tenders, Kazakhstan's system involves establishing price ceilings. In Uzbekistan, retail and wholesale margins are controlled. Between 2002–2012, public health expenditure as a percentage of total health expenditure rose from 54% to 58% in Kazakhstan and from 45% to 53% in Uzbekistan. Life expectancy however, increased from 65.9 to 69.6 years in Kazakhstan and from 67.1 to 68.1 years in Uzbekistan. **CONCLUSIONS:** With growing government health expenditure, reflecting the expansion of the health care systems, the countries are likely to increasingly look into containing costs. Given that some pricing mechanism is already in place in Kazakhstan, it may consider implementing tighter pricing regulations, moving closer to those seen in Europe. In Uzbekistan, the government may potentially consider expanding the beneficiary categories while ensuring competitiveness within the tendering process.

PIH94

PSYCHOMETRIC PROPERTIES OF THE 16-ITEM SORT FORM VERSION OF THE MENOPAUSE CERVANTES HEALTH-RELATED-QUALITY-OF-LIFE SCALE: THE CERVANTES-SF

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OBJECTIVES: The Cervantes scale is a specific health-related-quality-of-life (HRQoL) questionnaire developed in Spanish women through and beyond menopause. The original 31-item scale was reduced to a less time consuming 16-item sort form: The Cervantes-SF. The aim of this work was to assess the psychometric properties of the Cervantes-SF in a routine clinical sample of perimenopause and postmenopause women. **METHODS:** Peri and postmenopause adult women were recruited in twelve outpatient clinics of Gynecology. All of the patients completed both scales, the 31-items form and the abridged version, however, order of administration was balanced equally to avoid administration bias. A sub-sample of 31 women answered the sort form within 1–2 weeks later (rete-test). Correlation between forms and test-retest reliability were used to test measurement stability. Item analysis, internal consistency reliability, item-total and item-domain correlations and item correlation with the generic Spanish version of the EQ-5D-3L questionnaire were also studied. **RESULTS:** A sample of 215 women [mean age 55 years old (SD=5.3)] was enrolled. Internal consistency was good (Cronbach's $\alpha=0.829$) but slightly lower than that of the original scale ($\alpha=0.895$). Dimension reliabilities ranged between $\alpha=0.636$ (Health) and $\alpha=0.923$ (Vasomotor). Correlations between extended and reduced subscales was high and significant in all cases ($p<0.001$), ranging from $r=0.790$ for Health to $r=0.872$ for Vasomotor. Correlation between total scores was also high ($r=0.885$) and no differences were found between mean scores (Effect size=0.353). Short-form total score correlation with EQ-5D utility score was negative and significant ($r=-0.487$) and also with EQ-5D Health VAS ($r=-0.432$). Test-retest correlation was high ($r=0.886$). Completion of Cervantes-SF required half of the time than the original scale. **CONCLUSIONS:** The abridged 16-item Cervantes scale (Cervantes-SF) maintained the original psychometric properties. This version extends 51% of the original length, being faster to apply and making it specially suitable for routine medical practice.

PIH95

PREDICTIONS FOR MEDICAL SUBSIDY ENROLLMENT AMONG YOUNG CHILDREN FROM HIGH-RISK FAMILIES IN TAIPEI

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